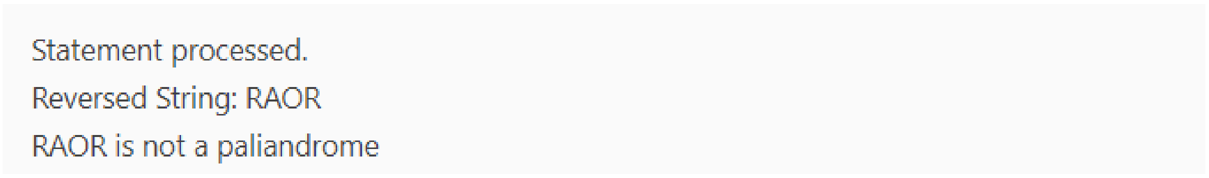
Lab cycle 2

1) Write a PL/SQL code to accept the text and reverse the given text. Check the text is palindrome or not

Code:

```
DECLARE
  s VARCHAR2(10) := 'malayalam';
  l VARCHAR2(20);
  t VARCHAR2(10);
BEGIN
  FOR i IN REVERSE 1..Length(s) LOOP
    l := Substr(s, i, 1);
    t := t ||''||l;
  END LOOP;

  IF t = s THEN
   dbms_output.Put_line(t ||''||' is palindrome');
  ELSE
   dbms_output.Put_line(t ||''||' is not palindrome');
  END IF;
END;
```

Output:



```
Statement processed.
Reversed String: RAOR
RAOR is not a paliandrome
```

2) Write a program to read two numbers; If the first no > 2nd no, then swap the numbers; if the first number is an odd number, then find its cube; if first no < 2nd no then raise it to its power; if both the numbers are equal, then find its sqrt.

Code:

```
DECLARE
  a INTEGER :=5;
  b INTEGER :=4;
  temp INTEGER:=0;
  c INTEGER;
  d INTEGER :=2;
  cube INTEGER;
BEGIN
   IF a > b THEN
     temp :=a;
     a :=b;
     b := temp;
     DBMS_OUTPUT.PUT_LINE('After the swapping the a value is '||a ||' and b value is  '||b);
     IF  MOD(b,d) !=0 THEN
       cube :=a* a * a;
       DBMS_OUTPUT.PUT_LINE('cube of a is:'||cube);
     ELSE
       DBMS_OUTPUT.PUT_LINE('The first number is even:');
     END IF;
  ELSIF a < b THEN
     c :=a **b;
     DBMS_OUTPUT.PUT_LINE('power is:'||c);
 ELSIF a =b THEN
    DBMS_OUTPUT.PUT_LINE('sqare root of a is:'||(SQRT(a)));
    DBMS_OUTPUT.PUT_LINE('sqare root of b is:'||(SQRT(b)));
 END IF;
END;
```

Output:

```
Statement processed.
After the swapping the a value is 4 and b value is 5
cube of a is:64
```

3) Write a program to generate first 10 terms of the Fibonacci series.

Code:

```
DECLARE
   t1 NUMBER :=0;
   t2 NUMBER :=1;
   t3 NUMBER ;
BEGIN
   dbms_output.put_line(t1);
   dbms_output.put_line(t2);
   for i in 3 ..10 loop
   t3 :=t1 + t2;
   dbms_output.put_line(t3);
   t1 := t2;
   t2 := t3;
   END LOOP;
END;
```

Output:

```
Statement processed.
0
1
1
2
3
5
8
13
21
34
```

4) Write a PL/SQL program to find the salary of an employee in the EMP table (Get the empno from the user). Find the employee drawing minimum salary. If the minimum salary is less than 7500, then give an increment of 15%. Also create an emp

%rowtype record. Accept the empno from the user, and display all the information about the employee.

PL/SQL CODE:

```
create table EMP(emp_no int primary key,emp_name varchar(20),salary int);

insert into EMP values(101,'arun',50000);

insert into EMP values(102,'arun',6500);

insert into EMP values(103,'arun',7500);


DECLARE

  emp1 EMP%rowtype;

  sal EMP.salary%type;

BEGIN

  SELECT salary INTO sal FROM EMP WHERE emp_no = 102;

  IF sal <= 7500 THEN

    UPDATE EMP SET salary = salary+salary* 15/100 WHERE emp_no = 102;

  ELSE

    DBMS_OUTPUT.PUT_LINE ('NO INCREMENT');

  END IF;

  SELECT * into emp1 FROM EMP WHERE emp_no = 102;

  DBMS_OUTPUT.PUT_LINE ('Name: '||emp1.emp_name);

  DBMS_OUTPUT.PUT_LINE ('employee number: '||emp1.emp_no);

  DBMS_OUTPUT.PUT_LINE ('salary: '|| emp1.salary);

END;
```

OUTPUT:

```
Statement processed.
Name: arun
employee number: 102
salary: 8596
```

5) Write a PL/SQL **function** to find the total strength of students present in different classes of the MCA department using the table Class(ClassId, ClassName, Strength);

Table creation And insertion

```
create table class(cls_id varchar(20),cls_name varchar(20),Strength int);

insert into class values('MCA21','S2A',59);

insert into class values('MCA21','S2B',58);

insert into class values('MCA20','S5A',40);

insert into class values('MCA20','S5B',34);
```

function code:

```
CREATE OR REPLACE FUNCTION findTotalStrength

  RETURN NUMBER IS

  s_count NUMBER(20):=0;

  BEGIN

    SELECT sum(strength) INTO s_count FROM class;

  RETURN (s_count);

  END;
```

Function Output:

```
Function created.
```

Function call

```
DECLARE

 c NUMBER(5):=0;

BEGIN

 C:= findTotalStrength();
```

```
  DBMS_OUTPUT.PUT_LINE('Totel students in mca department is:'||c);
END;
```

Output:

```
Statement processed.
Totel students in mca department is:191
```

6) Write a PL/SQL **procedure** to increase the salary for the specified employee. Using empno in the employee table based on the following criteria: increase the salary by 5% for clerks, 7% for salesman, 10% for analyst and 20 % for manager. Activate using PL/SQL block.

procedure code

```
CREATE OR REPLACE PROCEDURE increSalary
IS
emp1 emp%rowtype;
sal emp.salary%type;
dpt emp.emp_dpt%type;
BEGIN
SELECT salary,emp_dpt INTO sal,dpt FROM emp WHERE emp_no = 104;
   IF dpt ='clerk' THEN
     UPDATE emp SET salary = salary+salary* 5/100 ;
   ELSIF dpt = 'salesman' THEN
     UPDATE emp SET salary = salary+salary* 7/100  ;
   ELSIF dpt = 'analyst' THEN
     UPDATE emp SET salary = salary+salary* 10/100  ;
  ELSIF dpt = 'manager' THEN
     UPDATE emp SET salary = salary+salary* 20/100  ;
  ELSE
```

```
    DBMS_OUTPUT.PUT_LINE ('NO INCREMENT');
  END IF;
  SELECT * into emp1 FROM emp WHERE emp_no = 104;
  DBMS_OUTPUT.PUT_LINE ('Name: '||emp1.emp_name);
  DBMS_OUTPUT.PUT_LINE ('employee number: '||emp1.emp_no);
  DBMS_OUTPUT.PUT_LINE ('salary: '|| emp1.salary);
  DBMS_OUTPUT.PUT_LINE ('department: '|| emp1.emp_dpt);
END;
```

table creation

```
create table emp(emp_no int,emp_name varchar(20),salary int,emp_dpt varchar(20));
insert into emp values(101,'arun',50000,'salesman');
insert into emp values(102,'appu',6500,'manager');
insert into emp values(103,'ammu',7500,'clerk');
insert into emp values(104,'anitha',7500,'analyst');
```

calling function

```
DECLARE
BEGIN
  increSalary();
END;
```

Output:

```
Statement processed.
Name: anitha
employee number: 104
salary: 8250
department: analyst
```

7) Create a **cursor** to modify the salary of ‘president’ belonging to all departments by 50%

Table creation and insertion command:

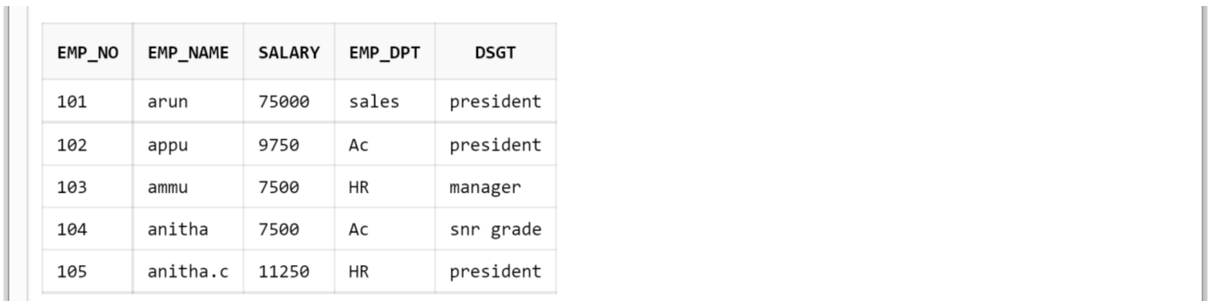
```
create table emp(emp_no int,emp_name varchar(20),salary int,emp_dpt varchar(20),dsgt varchar(20));

insert into emp values(101,'arun',50000,'sales','president');

insert into emp values(102,'appu',6500,'Ac','president');

insert into emp values(103,'ammu',7500,'HR','manager');

insert into emp values(104,'anitha',7500,'Ac','snr grade');

insert into emp values(105,'anitha.c',7500,'HR','president');
```

Cursor code:

```
DECLARE

   total_rows number(2);

   emp1 EMP%rowtype;

BEGIN


 UPDATE emp SET salary = salary + salary * 50/100 where dsgt = 'president';

 IF sql%notfound THEN

    dbms_output.put_line('no employee salary updated');

 ELSIF sql%found THEN

   total_rows := sql%rowcount;

   dbms_output.put_line( total_rows || ' employee salary details  updated');

 end if;

end;
```

output:

```
Statementprocessed.
3 employee salary details updated
```



EMP_NO	EMP_NAME	SALARY	EMP_DPT	DSGT
101	arun	75000	sales	president
102	appu	9750	Ac	president
103	ammu	7500	HR	manager
104	anitha	7500	Ac	snr grade
105	anitha.c	11250	HR	president

8) Write a **cursor** to display list of Male and Female employees whose name starts with S.

Table creation and insert command:

```
create table emp(emp_no varchar(20),emp_name varchar(20),salary int,emp_dpt
varchar(20),gender varchar(10));

insert into emp values('101','arun',50000,'sales','male');

insert into emp values('102','sandeep',6500,'Ac','male');

insert into emp values('103','ammu',7500,'HR','female');

insert into emp values('104','snitha',7500,'Ac','female');

insert into emp values('105','anitha.c',7500,'HR','female');
```

Cursor code:

```
DECLARE

 CURSOR emp1 is SELECT * FROM emp WHERE emp_name like ('s%');

 emp2 emp1%rowtype;

BEGIN

 open emp1;

 loop

  fetch emp1 into emp2;

  exit when emp1%notfound;

  dbms_output.put_line('employee information: '||' '||emp2.emp_no || ' ' ||
emp2.emp_name || ' ' || emp2.salary|| ' '||emp2.emp_dpt||' '||emp2.gender);

 end loop;
 dbms_output.put_line('Totel number of rows :'||emp1%rowcount);

close emp1;

end;
```

output:

```
Statement processed.
employee information: 102 sandeep 6500 Ac male
employee information: 104 snitha 7500 Ac female
Totel number of rows :2
```

9) Create the following tables for Library Information System: Book : (accession-no, title, publisher, publishedDate, author, status). Status could be issued, present in the library, sent for binding, and cannot be issued. Write a **trigger** which sets the status of a book to "cannot be issued", if it is published 15 years back.

Table creation:

```
create table book(accession_no int , title varchar(20), publisher
varchar(20), publishedDate date, author varchar(20), status varchar(30));
```

Trigger code:

```
CREATE OR REPLACE TRIGGER search1

 before insert  ON book

 FOR EACH ROW

 declare

  temp date;

BEGIN

 select sysdate into temp from dual;

 if inserting  then

  if :new.publishedDate < add_months(temp, -180) then

       :new.status:='cannot be issued' ;

  end if;

 end if;

end;
```

inserting command:

insert into book values(2511,'abcd','cp','21-jan-2009','john','issued');

insert into book values(2512,'efhj','cp','30-mar-2010','malik','present in the library');

insert into book values(2513,'hijk','cp','21-june-2011','sonu','sent for binding');

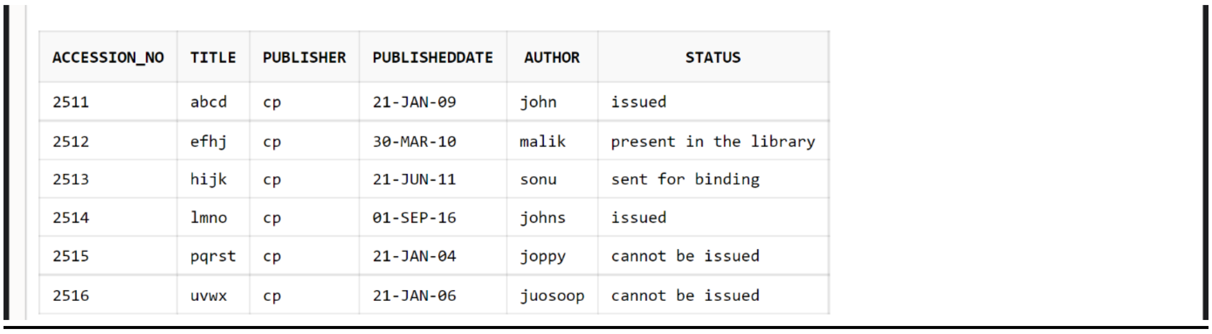
insert into book values(2514,'lmno','cp','01-sep-2016','johns','issued');

insert into book values(2515,'pqrst','cp','21-jan-2004','joppy','can not be issued');

insert into book values(2516,'uvwx','cp','21-jan-2006','juosoop',' issued');

SELECT * FROM book;

Output:



ACCESSION_NO	TITLE	PUBLISHER	PUBLISHEDDATE	AUTHOR	STATUS
2511	abcd	cp	21-JAN-09	john	issued
2512	efhj	cp	30-MAR-10	malik	present in the library
2513	hijk	cp	21-JUN-11	sonu	sent for binding
2514	lmno	cp	01-SEP-16	johns	issued
2515	pqrst	cp	21-JAN-04	joppy	cannot be issued
2516	uvwx	cp	21-JAN-06	juosoop	cannot be issued

10) Create a table Inventory with fields pdtid, pdtname, qty and reorder_level. Create a **trigger** control on the table for checking whether qty<reorder_level while inserting values.

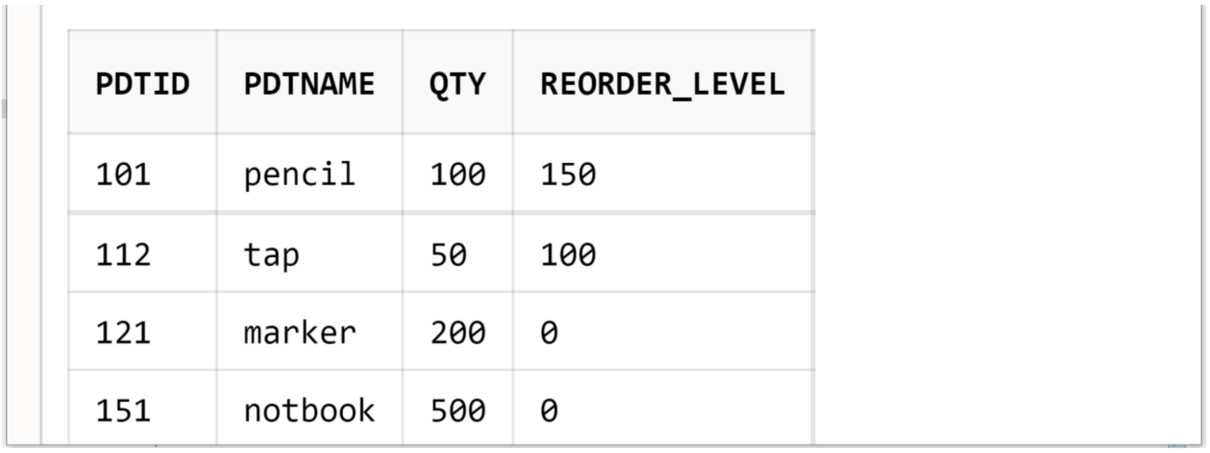
Code:

create table inventory(pdtid number primary key, pdtname varchar(10), qty int,reorder_level number);

CREATE OR REPLACE TRIGGER checking

```
 before insert  ON inventory
 FOR EACH ROW
declare
BEGIN
 if inserting  then
  if :new.qty > :new.reorder_level then
       :new.reorder_level:=0;
  end if;
 end if;
end;
insert into inventory values(101,'pencil',100,150);
insert into inventory values(112,'tap',50,100);
insert into inventory values(121,'marker',200,150);
insert into inventory values(151,'notbook',500,250);
select * from inventory;
```

Output:



PDTID	PDTNAME	QTY	REORDER_LEVEL
101	pencil	100	150
112	tap	50	100
121	marker	200	0
151	notbook	500	0